

TF-TANT, Munster
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QoS monitoring and SLS auditing

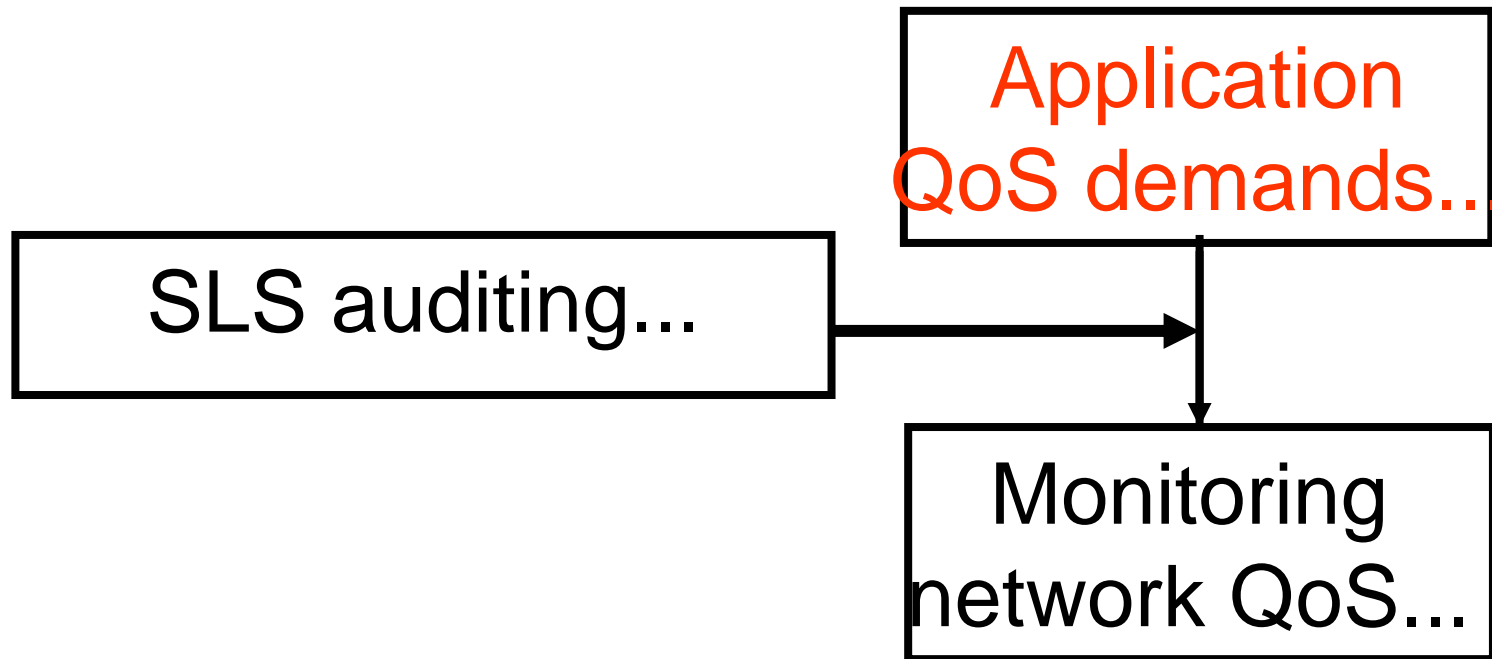


Outline

- Application QoS demands...
- Monitoring network QoS...
- SLS auditing...



QoS where?





Application QoS demands

- Determine compelling applications: ftp, H.323, streaming, MPEG-x, computational grid
- Literature study...
- Simulate impaired network...



Literature study

- http://www.heanet.ie/Heanet/projects/nat_infrastruct/perceived.html
- Some preliminary results...

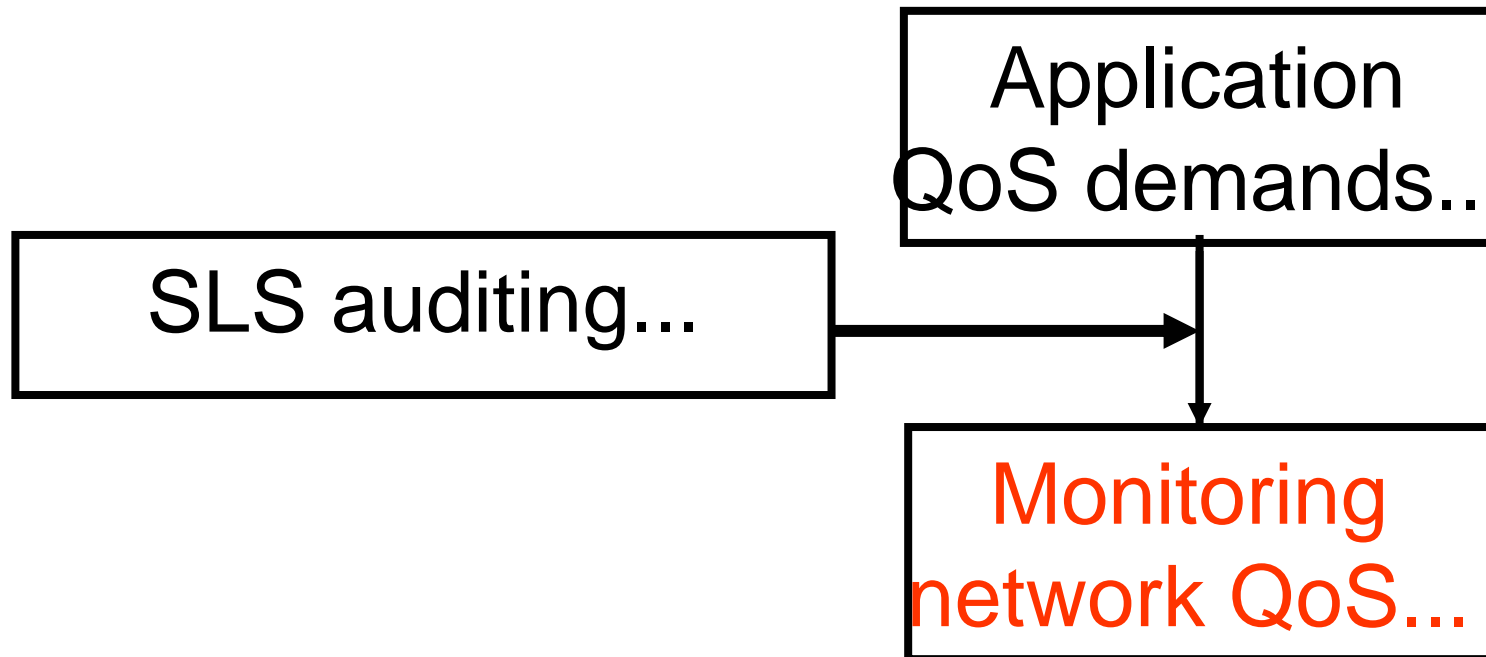


Simulate impaired network

- Determine micro-flow QoS parameters
 - transfer delay and delay variation
 - loss rate and error rate (like out-of-order)
 - available bandwidth
- Change behaviour within micro-flow (AF)
- Change of network load
 - unloaded, over provisioned, loaded
- NIST Net tool evaluation



QoS where?



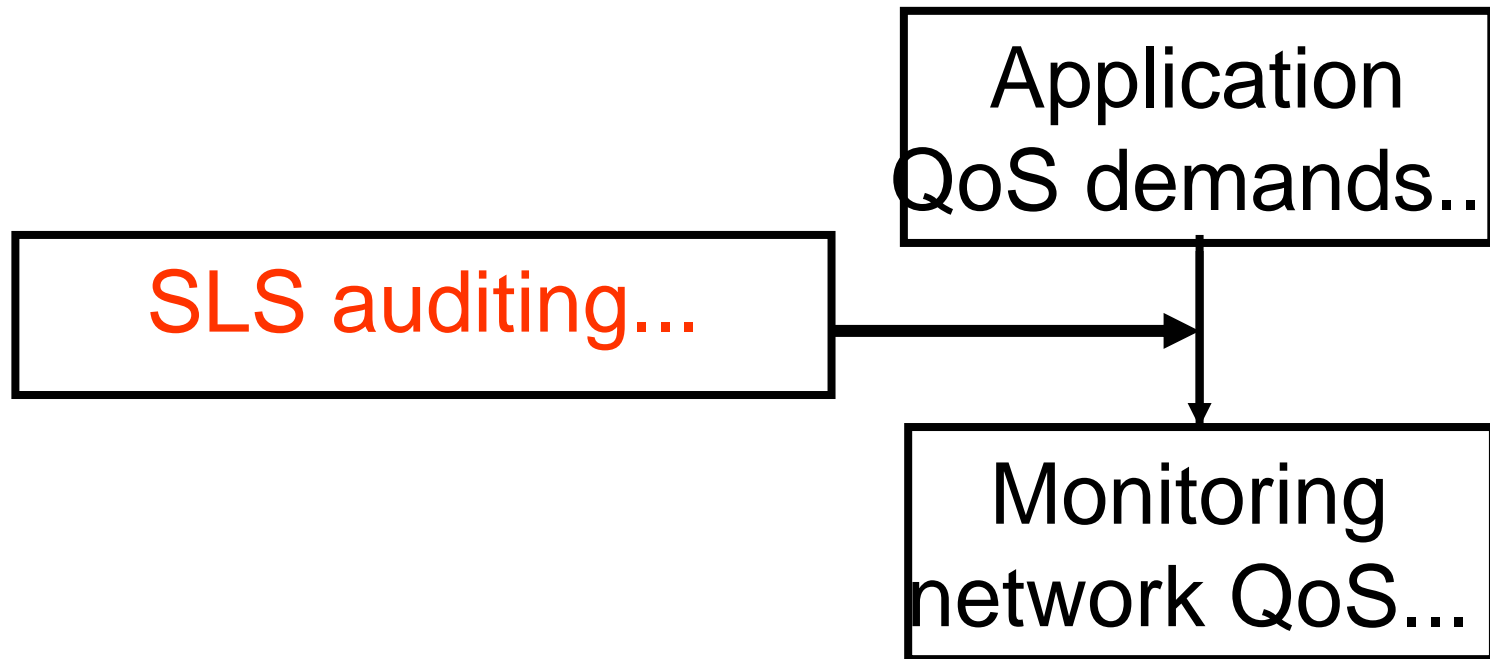


Monitoring network QoS

- Waiting for results out of other activities
- Use extra tools in parallel to standard ones



QoS where?





SLS auditing

- Defining environments...
- Gathering reference models and methods...
- *Freezing* definitions
- QoS monitoring and SLS auditing Inventorying/evaluating tools...



Defining environments

- Micro flow environment
looking at applications, end-to-end
- Aggregated environment
PHB



Gathering reference models and methods

- ITU
- TEQUILA
- IETF (IPPM)
- Internet2 E2E performance
- Eurescom?
- ...



Inventorying/evaluating tools

- ping, traceroute
- pathchar, pchar, etc.
- ttcp/netperf/tcpblast
- Chariot
- RIPE TTM/Surveyor
- NetFlow
- ...